

# Request For Continued Examination (RCE) Transmittal

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P.O. Box 1450  
Alexandria, VA 22313-1450A



Application Number	09/720,372
Filing Date	March 9, 2001
First Named Inventor	Kenji KUBOMURA
Group Art Unit	1771
Examiner Name	J. R. PIERCE
Attorney Docket Number	KUBOMURA=1

## This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to USPTO) on page 2.

**1. Submission required under 37 C.F.R. § 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

- a. ☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
- ii. ☐ Other \_\_\_\_\_
- b. ☒ Enclosed
- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other \_\_\_\_\_

### 2. Miscellaneous

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required).
- b. ☐ Other \_\_\_\_\_

### 3. Fees

The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when RCE is filed.

- a. ☒ The director is hereby authorized to charge the following fees, or credit any overpayments, to  
Deposit Account No. 02-4035 03/17/2004 CNGUYEN 00000050 09720372
- i. ☒ RCE fee required under 37 CFR 1.17(e) 01 FC:2801 385.00 OP
- ii. ☒ Extension of time fee (37 CFR. 1.136 and 1.17) (02 FC:2251 55.00 OP) (☐ \$ \_\_\_\_\_ already paid for \_\_\_\_\_ month(s) extension of time on \_\_\_\_\_)
- iii. ☐ Other \_\_\_\_\_
- b. ☐ Check in the amount of \$ \_\_\_\_\_ enclosed (Check No. \_\_\_\_\_)
- c. ☒ Credit card (Form PTO-2038 enclosed) authorized in the amount of \$ 440.00

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

- d. ☒ Provisional extension of time if needed. Applicants authorize any charge of additional fees (except issue fee) which may be required in connection with this application to Deposit Account No. 02-4035.

## SIGNATURE OF APPLICANT, ATTORNEY, AGENT REQUIRED

Name (Print/Type)	Ranni Jillions	Registration No. (Attorney/Agent)	31,979
Signature	<i>Ranni Jillions</i>	Date	March 16, 2004

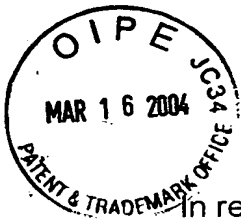
## CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Name (Print/Type)		Registration No. (Attorney/Agent)	
Signature		Date	

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing this form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: KUBOMURA=1

In re Application of:

KENJI KUBOMURA

Appln. No. 09/720,372

Filed: March 9, 2001

For: FIBER REINFORCED RESIN  
COMPOSITE MATERIAL...

) Art Unit: 1771  
)  
) Examiner: J. R. Pierce  
)  
) Washington, D.C.  
)  
) Confirmation No. 2532  
)  
) March 16, 2004  
)

**PRELIMINARY AMENDMENT**

Customer Window, Mail Stop **Fee Amendment**

Honorable Commissioner for Patents

U.S. Patent and Trademark Office

2011 South Clark Place

Crystal Plaza Two, Lobby, Room 1B03

Arlington, Virginia 22202

Sir:

Claims 1-4, 7, 21-23 and 28-30 are pending in the present application.

The amendment filed on February 20, 2004, has been entered in connection with the RCE filed herewith. An Advisory Action was mailed on March 2, 2004. In that Advisory Action, the Examiner indicated a concern that the amendments to claim 1 may not be supported in the application as originally filed. Applicants are submitting this Preliminary Amendment to address this concern.

Applicant amended claim 1 in the previous amendment filed on February 20, 2004 to recite that the matrix resin is used to control the coefficient of linear expansion of the composite material such that the coefficient approaches substantially zero. Applicant respectfully submits that this feature is supported in the

originally filed application. In line 15, page 9 of the specification, the characteristics of the matrix resin used commonly for the disclosed embodiments, epoxy resin, is described. The thermal expansion ratio of the epoxy resin used according to the present invention is disclosed (on page 9) to be 60 ppm/°C, that is, a positive value. On the other hand, in table 1 of page 10, there are nine different types of reinforcing fibers used in the disclosed embodiments. All of these fibers have negative coefficients of linear expansion as described in the right hand column of Table 1. Further, Table 2, on page 12, shows the coefficient of thermal expansion of a composite material according to the present invention comprising a first fiber (Fiber A), the second fiber (Fiber B) and the matrix resin (epoxy resin). In the top row of Table 2, Fiber A (PAN-based carbon fiber (M50J)) and Fiber B (PAN-based carbon fiber (M60J)) are combined in various ratios and the matrix resin (epoxy resin) is used to control the coefficient of thermal expansion.

Further, as shown in the top row of Table 3, page 13, when 55.1% of Fiber A (PAN-based carbon fiber (M50J)), 44.9% of Fiber B (PAN-based carbon fiber (M60J)) and the matrix resin (epoxy resin) are combined, the coefficient of thermal expansion results in zero. One of ordinary skill in the art would understand, based on these portions of the specification, and the application as a whole, that since all of the coefficient of linear expansions of the fibers disclosed are negative, the only way that the coefficient could be zero is if the matrix resin having a positive coefficient is used to control the coefficients.

Applicant notes that the number of reinforcing fiber types used according to the present invention is not limited to 2. Three or more types of fibers can be applied according to the present invention as long as the total coefficient of

thermal expansion of the reinforcing fiber is a negative value. That is, a reinforcing fiber having positive coefficient of thermal expansion can be used according to the present invention as long as the total coefficient of thermal expansion of the reinforcing fibers is maintained at a negative value.

Fiber A ( <u>negative</u> )	Total coefficient of thermal expansion of <u>reinforcing fiber</u>     <u>NEGATIVE</u>
Fiber B ( <u>negative</u> )	
Fiber C ( <u>positive</u> )	
+	
Thermal expansion ratio of the <u>matrix resin</u>  <u>POSITIVE</u>	
<u>ZERO</u>	

Applicant respectfully submits that one of ordinary skill in the art would understand that the present invention involves the use of the matrix resin to control the coefficient of linear expansion in the composite material such the coefficient approaches substantially zero.


In view of the above remarks and the amendments submitted on February 20, 2004, Applicant respectfully requests reconsideration of the rejections in the parent application. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

Appln. No. 09/720,372  
Amd. dated March 16, 2004  
Reply to Office Action of March 2, 2004

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.  
Attorneys for Applicant

By   
Ronni S. Jillions  
Registration No. 31,979

RSJ:ft  
Telephone No.: (202) 628-5197  
Facsimile No.: (202) 737-3528  
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